

Æginidæ is to be found in the position and structure of organs of sense (marginal vesicles), which are certainly very different in the two families (and also as regards their intimate structure). In the *Æginidæ* the sensory vesicles are situated freely on the outer margin of the umbrella, and are elevated upon short peduncles. In the *Geryonidæ*, on the contrary, they are enclosed in the gelatinous mass which forms the lowest margin of the mantle, and each vesicle is seated here upon a ganglion-like enlargement of the nervous ring. Perhaps the demonstration of this close anatomical affinity of the *Geryonidæ* and *Æginidæ* may serve, at least in one respect, to make the genetic connexion of the two families above described appear less enigmatical.

Finally, I may remark that I had the pleasure of bringing the above-described remarkable phenomena under the immediate notice of one of the first authorities upon Medusæ, my friend Professor Gegenbaur, and that he was convinced of the correctness of my observations and the justness of the conclusions founded upon them.

XLVII.—*Notices of British Fungi*. By the Rev. M. J. BERKELEY, M.A., F.L.S., and C. E. BROOME, Esq.

[Continued from p. 404.]

[Plates XV., XVI., XVII.]

1063. *Peziza* (*Geopyxis*) *carbonaria*, Alb. & Schw. p. 314.
On burnt ground. Ascot, C. E. Broome, 1863.
A charming addition to our list.

PLATE XV. fig. 15. *a.* ascus with paraphysis, magnified; *b.* sporidia, more highly magnified.

1064. *P.* (*Humaria*) *Wrightii*, Berk. & Curt. Cupulis hemisphæricis, demum planis, coccineis, extus furfuraceo-granulatis; sporidiis globosis, l. subglobosis, junioribus lævibus, adultis echinulatis.

On trunks of trees covered with *Hypnum serpens*. Bodelwyddan, Flintshire, March 1864.

Sporidia .00045–.0006 inch in diameter; paraphyses slender, branched.

The Texas plant is just the same, and agrees exactly in habit.

PLATE XV. fig. 16. *a.* asci, magnified; *b.* paraphysis; *c.* sporidia, more highly magnified.

1065. *P.* (*Sarcoscyphæ*) *theleboloides*, A. & S. p. 321, t. 12.
On spent Hops. Batheaston, Ilford, Essex, C. E. Broome and W. W. Saunders.

Cup at first obovate or subcylindrical, concave and expanded when mature, of a bright-orange colour within, beset externally with delicate, erect, white hairs, which are hyaline under the microscope, and seated at first on a delicate white subiculum, which disappears as the plant advances to maturity and the cups become crowded. Asci linear.

PLATE XV. fig. 17. *a.* hair from outside of cup; *b.* ascus; *c.* paraphysis; *d.* sporidia, .0005 inch long, .00025 wide.

1066. *P.* (*Sarcoscyphæ*) *pygmæa*, Fr. Syst. Myc. vol. ii. p. 79. Cupula concava, demum plana, aurantiaca, extus cum stipite crassiusculo tomentoso, pallida; sporidiis minoribus fusiformibus, enucleatis.

On dead twigs of *Ulex*, buried in the sandy soil. Ascot, Nov. 1863, C. E. Broome. Fries's plant was found in June, on fir.

Cup 3-6 lines broad. The stem varies in length according to the depth at which the twig is buried. Sporidia .0005-.0006 inch long. Hymenium proliferous, as in *Cyphella Curreyi*.

This seems to agree so closely with the plant of Fries, that we do not like to separate it. His species, which he found once only, was possibly in a young state.

PLATE XV. fig. 18. Asci, magnified; *b.* sporidia, ditto.

1067. *P.* (*Dasyscyphæ*) *diplocarpa*, Curr. Linn. Tr. vol. xxiv. p. 153, figs. 30-33.

Joyden's Wood, Dartford, Nov. 8, 1862, C. E. Broome.

Remarkable for the solitary stylospores which crown the paraphyses.

1068. *P.* (*Mollisia*) *auricolor*, Blox. MS. Mollis, subgelatinosa, aurantiaca; cupula marginata e strato tenui hyalino filamentoso oriunda; sporidiis angustis.

On the under side of a fallen tree. Gopsal, Rev. A. Bloxam.

Cups with a broad raised margin, springing from delicate radiating hyaline interwoven hairs.

The evident affinity of this species to *P. vinosa* induces us to place it in *Mollisia* rather than *Tapesia*.

1069. *P.* (*Mollisia*) *hepatica*, Batsch, fig. 138. Sessilis, concava, vinoso-badia, extus granulata; margine dentibus triangularibus cincto; paraphysibus septatis, articulis inflatis; sporidiis ellipticis, lævibus.

On the ground, beneath rabbits' dung, more rarely on the dung itself or surrounding mosses and twigs. Bowood, Bathford Down, Wiltshire, Jan. 1864, C. E. Broome. (Rab. Fung. Eur. Exs. no. 612.)

Gregarious; when young, subglobose and closed, then concave and flattened, 1-2 lines broad, of a watery consistence; paraphyses septate, the joints more or less swollen or inflated.

Asci linear; sporidia elliptic, uniseriate, hyaline, even, $\cdot 001$ inch long, $\cdot 0005$ broad.

PLATE XV. fig. 19. *a.* asci with paraphyses, magnified; *b.* sporidia, more highly magnified.

1070. *P.* (Mollisia) *Dematiicola*, n. s. Gregaria, minutissima; cupula hemisphærica, aquose umbrina, floccis longis hyalinis ciliata; disco cinereo; ascis brevioribus; sporidiis subcymbiformibus, hyalinis.

On dead wood, nestling amongst the flocci of some *Helminthosporoid Fungus*; but whether at all related to it, or not, we cannot say.

This very beautiful, though minute, species has a mixed resemblance to an *Excipula* and such *Ascoboli* as *A. ciliatus*.

PLATE XV. fig. 20. *a.* Ascus with bristles, magnified; *b.* sporidia, more highly magnified.

1071. *P.* (Calycina) *minutissima*, Batsch, fig. 143 (*P. Helminthosporii*, Blox. MS.). Albida; cupulis obovatis, substipitatis; margine incurvo; hymenio concavo; ascis clavatis, elongatis; sporidiis fusiformibus, 4-septatis, articulis tumidiusculis; paraphysibus filiformibus.

On *Helminthosporia*. Twycross, Rev. A. Bloxam. Batheaston, Jan. 1864.

Pallid; cups clavate, substipitate, margin incurved; sporidia $\cdot 0014$ inch long, quadrisepate.

This is undoubtedly the plant of Batsch, and very interesting from the marked character afforded by the sporidia.

PLATE XV. fig. 21. *a.* Ascus with paraphysis, magnified; *b.* sporidia, more highly magnified.

1072. *P.* (Mollisia) *Browniana*, Blox. MS. Cupula hemisphærica, sessili, cornea; margine pallidiore, ciliato; disco pallido; sporidiis breviter fusiformibus, hyalinis.

On dead stems of *Epilobium hirsutum*. Twycross, Rev. A. Bloxam.

Allied to *P. lacustris*. That in Fr. 'Sci. Suec.' no. 173 has sporidia $\cdot 0008$ inch long, uniseptate; that of Desm. no. 1064 has sporidia $\cdot 0006$ inch long; while *P. lacustris* from Mr. Currey has sporidia $\cdot 0005$ – $\cdot 0006$ long. The sporidia in Mr. Bloxam's plant are $\cdot 00045$ long. The colour is paler, and, when perfect, the ciliated margin, which consists of delicate, flexuous, more or less interwoven hairs, is characteristic.

1073. *P.* (Mollisia) *lacustris*, Fr. Sc. Suec. no. 173.

On dead stems of aquatic plants. F. Currey.

1074. *Helotium luteolum*, Curr. l. c. p. 153, figs. 11, 12, 18.

On gorse. Paul's Cray Common, Kent, May 31, 1862, F. Currey.

1075. *H. aquaticum*, Curr. l. c. p. 154, fig. 19.

On a fragment of stick in water. Paul's Cray Common, May 31, 1862.

1076. *Rhizina undulata*, Fr. Obs. i. p. 161; Intell. Obs. no. 25 (cum icone); Curr. l. c. p. 493, tab. 51. figs. 7-9.

Ascot, on sandy banks where the heath had been burnt down, in great abundance. First observed by the Rev. G. H. Sawyer.

Some of the specimens have a raised yellowish margin, as in *R. levigata*; but this vanishes with age.

1077. *Patellaria* (*Mollisia*) *olivacea*, Batsch, El. fig. 51 (*Rhizina nigro-olivacea*, Curr. Linn. Tr. vol. xxiv. p. 493, tab. 51. figs. 10-12).

On rotting willow. Batheaston, C. E. Broome.

It runs over the wood in an irregular manner, like the thallus of a *Peltidea*. In its young state it is truly *Peziza*-like and very beautiful.

PLATE XV. fig. 22. *a a*. Asci with paraphyses, magnified; *b*. paraphyses bearing irregular conidia, ditto; *c*. sporidia, more highly magnified.

1078. *P. atro-vinosa*, Blox. MS.; Curr. l. c. p. 155, t. 25. f. 31. Gopsal, Rev. A. Bloxam.

1079. *P. aquatica*, Curr. l. c. p. 155, tab. 25. fig. 23.

Pond at St. George's Hill, Weybridge; Paul's Cray Common, May 1862, F. Currey.

1080. *P. palustris*, Curr. l. c. fig. 35.

On dead rushes in water. Paul's Cray Common, May 31, 1862.

1081. *Ascobolus viridis*, Curr. Linn. Tr. vol. xxiv. p. 154.

On clay. Hanham, Oct. 15, 1861; Leigh Wood, Clifton, Messrs. Currey and Broome.

The enormous increase of species in this interesting genus is mainly due to the researches of the Messrs. Crouan. They are wrong in saying that no one had observed the amethyst tint of the sporidia in *Ascobolus furfuraceus* before them. It is recorded in the 'English Flora,' published more than twenty-five years since. As the characters of the species depend so much on the sporidia, we think it useful to give figures from original sketches in most of the British species.

1082. *A. Jungermanniæ*, B. & B. (*Peziza Jungermanniæ*, Nees).

On *Jungermanniæ*. Jedburgh, A. Jerdon.

Asci slightly clavate, at length projecting; sporidia elliptic, .0006 inch long, sometimes rather irregular, of an intense verdigris-green when fresh, as are also the clavate-tipped paraphyses.

PLATE XVI. fig. 23. *a*. Paraphyses, magnified; *b*. asci, ditto; *c, d*. sporidia, more highly magnified.

**A. testaceus* (*Helotium testaceum*, B. Outl. p. 372).

This species, which was originally found on old sacking and

other manufactured hemp or flax, occurs on rabbits' dung in the West of England, C. E. Broome.

The asci project in good fresh specimens; and the habitat indicates an *Ascobolus* rather than an *Helotium*.

PLATE XIV. fig. 5. *a.* Ascus with paraphyses, magnified; *b.* sporidia, more highly magnified.

1083. *A. denudatus*, Fr. Syst. Myc. vol. ii. p. 164.

On the ground, attached to little roots. Marlborough Forest, Oct. 15, 1863, C. E. Broome.

Sporidia $\cdot 0007$ – $\cdot 0008$ inch long.

PLATE XVI. fig. 24. *a.* Ascus with paraphysis, magnified; *b.* sporidia, more highly magnified; *c.* episporium, ditto.

**A. vinosus*, B. Engl. Fl. v. p. 209.

Stylospores occur in this species occasionally at the tips of the paraphyses—a circumstance exactly analogous to one observed by us in a Lichen. (See Intr. to Crypt. Bot. p. 391, fig. 80 *d.*)

PLATE XVI. fig. 25. *a.* Ascus, magnified; *b.* sporidia, $\cdot 0006$ – $\cdot 0008$ inch long, more highly magnified; *c.* paraphysis with stylospores, ditto; *d.* stylospores fallen off, $\cdot 0007$ long, ditto.

**A. ciliatus*, Schm.

PLATE XIV. fig. 7. *a.* Plant, magnified; *b.* one of the cilia more highly magnified; *c.* asci with paraphysis, magnified; *d.* sporidia, more highly magnified.

1084. *A. depauperatus*, n. sp. Cupulis minutis appianatis e pallido vinosis; ascis brevibus; sporidiis obtuse fusiformibus, lurido-violaceis, lævibus; paraphysibus leviter incrassatis.

On dung of sheep, horse, and deer. Spye Park, Bathford, Hanham, &c., C. E. Broome.

Cups minute, not exceeding one-hundredth of an inch in diameter, yellowish when young, becoming vinous, but sometimes, when old, losing their purplish tint; sporidia, as in *A. vinosus* and some others, collected in a distinct sac, $\cdot 0004$ – $\cdot 0005$ inch long by $\cdot 00025$ wide, which is only half the dimensions of those of *A. vinosus*, the cups of which, moreover, are many times as large. It does not agree with any of Crouan's species.

PLATE XIV. fig. 6. *a.* Ascus with paraphysis, magnified; *b.* sporidia, more highly magnified.

1085. *A. Crouani*, Cooke, in Seem. Journ. of Bot. May 1864. (*A. miniatus*, Crouan.)

The sporidia, as represented by Mr. Cooke, are very young. As they advance to maturity, they are first verrucose, then beautifully reticulate, like the sporidia of some truffles.

PLATE XVI. fig. 26. *a.* Ascus with branched paraphyses, magnified; *b.* sporidia in a young stage of growth; *c.* more advanced, $\cdot 0005$ inch in diameter, more highly magnified.

**A. glaber*, P. Obs. 1, t. 4. f. 7.

PLATE XVI. fig. 27. *a.* Ascus, magnified; *b.* paraphysis, ditto; *c.* sporidia, $\cdot 0005$ inch broad, $\cdot 0009$ – $\cdot 001$ long, more highly magnified; *d.* ditto swollen by rain, ditto.

Mr. Cooke's figure of the sporidia is not correct. The reticulation is by no means so uniform.

**A. carneus*, Pers. Syn. p. 676.

Asci in our specimens only $\cdot 0012$ inch long. They are more than twice as long in *A. granuliformis*. Unfortunately, we can find no perfect sporidia.

PLATE XVII. fig. 29. Asci and paraphyses, magnified.

*1085. *A. cinereus*, Crouan, in Ann. des Sc. Nat. sér. 4. vol. x. p. 194, fig. D.

Batheaston, C. E. Broome.

PLATE XVII. fig. 30. *a.* Ascus with paraphysis, magnified; *b.* tip of ascus and paraphysis, more magnified; *c.* sporidia, $\cdot 0009$ inch long, $\cdot 0004$ wide, ditto.

1086. *A. granuliformis*, Crouan, *l. c.* p. 196.

On cow-dung. C. E. Broome.

PLATE XVII. fig. 31. *a.* Ascus with paraphyses, magnified; *b.* sporidia, $\cdot 0004$ – $\cdot 0005$ inch long, $\cdot 0003$ wide, more highly magnified.

1087. *A. microsporus*, n. s. Cupulis minutis, albidis, depressis; ascis elongatis; sporidiis ellipticis, demum violaceis, lævibus; paraphysibus apice globosis, endochromate viridi-luteo repletis.

On dung of cows and sheep. Bathford, Batheaston, C. E. Broome.

Cups very minute, paler than in the last, dirty white or yellowish brown, hymenium granulated with the tips of the asci, which are often furnished at the base with a little narrow oblique stem; sporidia $\cdot 0003$ inch long by $\cdot 00015$ wide, quite smooth; tips of paraphyses filled with coloured endochrome, which makes them very conspicuous. This differs materially from *A. granuliformis* in the size of the fruit, which is proportionally narrower; the colour also is different.

PLATE XVI. fig. 28. Asci with paraphyses, magnified.

1088. *A. argenteus*, Curr. MS.

On cowdung. Eltham, Nov. 1863, C. E. Broome.

PLATE XVII. fig. 32. *a.* Asci, magnified; *b.* sporidia, $\cdot 0005$ inch long, $\cdot 0003$ wide, more highly magnified.

1089. *A. macrosporus*, Crouan, Ann. d. Sc. Nat. sér. 4. vol. vii. p. 74.

On sheep- and horse-dung. Batheaston, C. E. Broome.

Mr. Currey observes that the amethyst-coloured epispore tears off in riband-like shreds.

PLATE XVII. fig. 33. *a.* Plant with projecting asci, magnified; *b.* ascus

with paraphysis, more highly magnified; *c.* mass of sporidia surrounded by gelatine, ditto; *d.* immature sporidium, ditto; *e.* mature sporidia, .0025 inch long; *f.* sporidium with shreds of epispore; *g.* epispore, more highly magnified.

1090. *A. Kerverni*, Cr. Ann. d. Sc. Nat. sér. 4. vol. x. p. 193.
On old cow-dung. Bathford, C. E. Broome.

PLATE XVII. fig. 34. *a.* Ascus with sporidia in a young state, magnified; *b.* ascus with paraphyses and sporidia when mature, more highly magnified; *c.* tip of ascus, ditto; *d.* paraphysis with mature sporidia, ditto, .001 inch long. The sporidia are dark violet when mature, and not reticulated. When young, they nearly fill the ascus; but, when mature, are confined to a small space. When their proper envelope bursts, a number of minute globular bodies escape, apparently of a different character from the coarser ones which fill the space between the primary and secondary membranes when they are immature, fig. *c.*

1091. *A. sexdecemsporus*, Crouan; *l. c.* p. 195.

On horse- and cow-dung. Hanham, near Bristol, C. E. Broome.

PLATE XVII. fig. 35. *a.* Ascus, magnified; *b.* paraphyses, ditto; *c.* sporidia, .0006 inch long, more highly magnified.

**A. saccharinus*, B. & Curr., Berk. Outl. p. 374.

On old leather and rag. Chislehurst, F. Currey.

PLATE XVII. fig. 36. *a.* Ascus, magnified; *b.* sporidia, .0008 inch long, more highly magnified.

1092. *Actidium Hysterioides*, Fr.

On chips, under fir trees. St. George's Hill, Weybridge, May 5, 1861, F. Currey.

1093. *Sphinctrina tigillaris*, n. s. Stipite brevi, cylindrico; capitulo elliptico; sporidiis oblongis, uniseptatis.

On an old *Polyporus* from a beam in King's Cliffe Church, and on wood at Batheaston, C. E. Broome.

Extremely minute, looking at first like a little *Stilbum*. It gives off a few threads on the surface of the matrix. The stem consists of little oblong cells. Sporidia .00015--.0003 long.

1094. *Tuber excavatum*, Vitt.

Rudloe, Batheaston, Leigh Wood, &c., C. E. Broome.

**Genea hispidula*, Berk.

This was formerly referred to *Genea papillosa*, Vitt., of which Tulasne thought it might be a variety, though he adopted the name given above. Vittadini, however, on seeing specimens, pronounced it to be perfectly distinct.

1095. *Xylaria vaporaria*, Berk. MS.; Curr. *l. c.* figs. 17, 26.

This curious plant was sent from Cornwall, in the shape of a *Sclerotium* which abounded in a mushroom-bed, to the destruction of the mushrooms. One of the specimens, under the care of Mr. Currey, developed the very curious species of which he has given a figure.

1096. *Valsa lageniformis*, Curr. l. c. f. 16. *Sphæria lageniformis*, Sollman, Bot. Zeit. 1862, p. 380.

On ash. Combe Place, Lewes, Sept. 1862, F. Currey.

**Sphæria* (*Villosæ*) *pilosa*, P.

We have observed oblong conidia, rather irregular in outline, terminating the hairs. The asci in the same specimens, besides the eight linear, oblong, somewhat sigmoid sporidia, had at the tip a globose, smooth or slightly granulated body, .0003 inch in diameter, the nature of which we were unable to determine.

1097. *S.* (*Denudatæ*) *fmicola*, Roberge, Desm. no. 2061.

On asses' dung, Rhyl. It is apparently a common species.

Sporidia elliptic, brown, with a large oil-globule, green when young, .0006–0008 long, .0004 broad.

This is, we believe, *S. stercoraria*, Curr., var., Tr. Linn. Soc. 1859, no. 256.

Delicate, nearly linear stylospores occur at the mouth of the perithecia, .0007 inch long.

1098. *S.* (*Obtectæ*) *Fraxinicola*, Curr. l. c. xxiv. p. 158, fig. 34.

On dead branches of ash. Combe Place, Lewes, F. Currey.

1099. *S.* (*Obtectæ*) *verecunda*, Curr. l. c. p. 158, tab. 25. fig. 3.

On sticks. Batheaston.

1100. *S.* (*Caulicolæ*) *Triglochinicola*, Curr. l. c. f. 15.

On carpels and stems of *Triglochin palustre*. Ringmer, Sussex, Oct. 1862.

1101. *Nectria hirta*, Blox. MS.; Curr. l. c. p. 158, tab. 25. fig. 24.

On decaying rails. Twycross, Rev. A. Bloxam.

**Hypomyces luteo-virens*. Ashton Court, near Bristol, Jan. 1845. Bathford, upon *Polyporus annosus*, Nov. 1864.

H. luteo-virens, b, figured by Albertini and Schweinitz, is certainly different, and may be called *H. viridis*, retaining the original specific name. The dull green colour is characteristic. The whole habit too is different.

1102. *Hypomyces aurantia*, Tul.

As there was some doubt about *Sphæria aurantia*, Eng. Fl., being the true plant of Persoon, it was omitted in the 'Outlines.' It has now, however, been found in abundance in Flintshire, on *Polyporus squamosus*, and it is inserted under the generic name proposed by Tulasne for some allied species.

There is a very pale honey-coloured variety, springing from a snow-white subiculum, which accompanies the darker form. In both, the sporidia sometimes assume the peculiar swollen form which is figured by Tulasne in *H. lateritia*, at tab. 3. of the second part of his 'Carpologia.'

1103. *Perisporium vulgare*, Corda, fasc. 2. fig. 97.

On old rope. Batheaston, Nov. 1864.

Sporidia in chains of four, .00025 inch long when separated; asci with a delicate stem.

[To be continued.]

XLVIII.—*A Contribution to the Ichthyology of West Africa.*

By DR. ALBERT GÜNTHER.

THE British Museum has lately received a small collection of West-African fishes, a part of which deserve some attention, inasmuch as they appear to be undescribed, or at least new to that fauna. We do not know the exact locality where these specimens have been obtained, but it is probable that they are from the Niger. The collection contained, besides other well-known West-African species, large examples of *Lates** *niloticus*, *Clarotes laticeps*, and *Citharinus latus*, which had been known hitherto from the Nile only; also *Distichodus rostratus* and *Alestes macrolepidotus*, and, finally, the common Indian *Drepane punctata*.

The following are new:—

Synodontis guttatus†.

D. 1/7. A. 12. P. 1/10. V. 8.

The gill-opening extends downwards to before the root of the pectoral fin. Mandibular teeth shorter than the eye, about thirty in number. Maxillary barbels about as long as the head, not fringed; mandibular barbels provided with filaments, the outer ones much shorter than the head. The length of the head is rather less than two-sevenths of the total length (without caudal). Nuchal carapace not much arched, longer than broad; its posterior processes extend somewhat behind the dorsal spines. Dorsal spine a little longer than that of the pectoral fin, but shorter than the head; both these spines smooth in front. Humeral process nearly twice as long as high, pointed behind. The distance between the dorsal and adipose fins equals the length of the latter, which is nearly as long as the head. Body

* The genus *Lates* has been described as being without pseudobranchiæ. However, it may be seen in large specimens that these organs are present, although the fringes are extremely short and may be easily overlooked; they are well developed in *Lates colonorum*.

† I take this opportunity of directing attention to the misplacement of the heading "B. Mandibular teeth not longer than the eye," in p. 212 of the 5th vol. of the Catalogue of Fishes. It should stand before "3. *Synodontis serratus*," instead of before "4. *Synodontis schal*," as indeed is evident from the remarks made on these two species in p. 210.